

CLAIMS

What is claimed is:

1. A method of discriminating a type of disc, comprising:
stopping an operation of a motor rotating a disc;
detecting a time corresponding to a distance from a surface of the disc to a data recording layer of the disc using light reflected during a focusing operation; and
discriminating the type of disc by comparing the detected time and a reference value.
2. The method of claim 1, wherein the detection of the time corresponding to the distance comprising detecting the time using a focusing error signal detected during the focusing operation.
3. The method of claim 2, wherein the discrimination of the type of disc comprises discriminating between a CD disc type and a DVD disc type.
4. The method of claim 2, wherein the discrimination of the type of disc comprises determining the disc as a CD disc type when the detected time is greater than the reference value and as a DVD disc type when the detected time is less than the reference value.
5. The method of claim 1, wherein the discrimination of the type of disc comprises discriminating between a CD disc type and a DVD disc type.
6. The method of claim 1, wherein the discrimination of the type of disc comprises determining the disc as a CD disc type when the detected time is greater than the reference value and as a DVD disc type when the detected time is less than the reference value.
7. An apparatus for discriminating a type of disc, comprising:
a motor rotating a disc;
a pickup detecting light reflected from the disc; and

a system controller performing a control process of enabling a focusing operation on the disc while stopping an operation of the motor in a disc type discrimination mode and discriminating the type of disc according to a result of detecting a time corresponding to a distance from a surface of the disc to a data recording layer of the disc using a light reflected during the focusing operation on the disc.

8. The apparatus of claim 7, further comprising:

an amplifying unit producing a focusing error signal based on a light signal output from the pickup, wherein the system controller utilizes the focusing error signal to detect the time.

9. The apparatus of claim 8, wherein the system controller discriminates the type of disc between a CD disc type and a DVD disc type.

10. The apparatus of claim 8, wherein the system controller determines the disc as a CD disc type when the detected time is greater than a reference value and as a DVD disc type when the detected time is less than the reference value.

11. The apparatus of claim 7, wherein the system controller discriminates the type of disc between a CD disc type and a DVD disc type.

12. The apparatus of claim 7, wherein the system controller determines the disc as a CD disc type when the detected time is greater than a reference value and as a DVD disc type when the detected time is less than the reference value.

13. An apparatus to discriminate a type of a disc, comprising:

a motor;

a pickup detecting an amount of light reflected on the disc;

a driving circuit controlling the pickup to perform a focusing operation on the disc;

a radio frequency (RF) amplifier converting the amount of light detected into electrical signals and outputting a focus error (FE) signal and the electrical signals; and

a system controller discriminating the type of the disc while the focusing operation is performed and an operation of the motor is stopped, according to a result of detecting a time corresponding to a distance from a surface of the disc to a data recording layer of the disc using the electrical signals and the FE signal.

14. The apparatus of claim 13, wherein the disc is a reproducible or recordable/reproducible disc comprising a CD or a DVD.

15. The apparatus of claim 13, further comprising:
a servo controller, wherein when the disc drive is in a disc discrimination mode, the system controller stops the operation of the motor via the servo controller and controls the pickup to perform the focusing operation on the disc.

16. The apparatus of claim 15, further comprising:
a driving circuit stopping the operation of the motor, wherein the servo controller drives the pickup and the driving circuit when an instruction to stop the operation of the motor and the focusing operation of the pickup is received from the system controller.

17. The apparatus of claim 13, wherein the discrimination of the type of disc comprises determining the disc as a CD disc type when the detected time is greater than a reference value and as a DVD disc type when the detected time is less than the reference value.

18. The apparatus of claim 13, wherein the reference value is determined as a time value of 75 ms.

19. A method of discriminating a type of disc in a disc drive, which comprises a disc, a servo controller, a spindle motor, a pickup, and a system controller, the method comprising:

outputting a control signal to a servo controller to turn on the pickup while turning off the spindle motor;

performing the focusing operation on the disc;

detecting a time corresponding to a distance from a surface of the disc to a data recording layer of the disc using an amount of light reflected on the disc and an FE signal; and

comparing the time with a reference value; wherein if the detected time is greater than the reference value the disc is determined to be a CD disc type, or if the detected time is less than the reference value the disc is determined to be a DVD disc type.

20. A method of discriminating a type of a disc in a disc drive comprising a pickup and a motor, the method comprising:

detecting an amount of light reflected by the disc;

controlling the pickup to perform a focusing operation on the disc;

converting the amount of light detected into electrical signals and outputting a focus error (FE) signal; and

discriminating the type of the disc while the focusing operation is performed and an operation of the motor is stopped, according to a result of detecting a time corresponding to a distance from a surface of the disc to a data recording layer of the disc using the electrical signals and the FE signal.

21. The method of claim 20, further comprising:

determining the disc as a CD disc type when the detected time is greater than a reference value and as a DVD disc type when the detected time is less than the reference value.